***		Applic	ation Number	09/683,264
TRANSMITTAL	•	Filing	Date	December 5, 2001
🎒 FORM		First N	lamed Inventor	Sani-Rose Ma
be used for all correspondence after in	nitial filing)	Group	Art Unit	1024
		Exami	ner Name	Unassigned CFM
Total Number of Pages in This Submission	4	Attorne	ey Docket Number	December 5, 2001  Sani-Rose  1024  Unassigned  018547-048820US
	ENCLC	SURES	(check all that apply)	
Fee Transmittal Form		ment Pap		After Allowance Communication of Group
Fee Attached	☐ Drawing	g(s)		Appeal Communication to Board Appeals and Interferences
Amendment / Response	Licensir	ng-relate	d Papers	Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)
After Final		Petition Routing Slip (PTO/SB/69) and Accompanying Petition  Petition to Convert to a Provisional Application  Power of Attorney, Revocation Change of Correspondence Address		Proprietary Information
Affidavits/declaration(s)	_			Status Letter
Extension of Time Request				Other Enclosure(s) (please identify below):
Express Abandonment Request		al Disclaii it for Refu		1) Return receipt postcard 2) Four (4) Reference Copies 3) International Search Report
Information Disclosure Statement	CD, Nui	mber of (	CD(s)	of international dearen Report
Certified Copy of Priority Document(s)	Remar	ks	Deposit Account 20-14	authorized to charge any additional fees 430. es does not include cited references.
Response to Missing Parts/ Incomplete Application			- Julianista of pag	20 <u>2000 110</u> 1 11101000 01100 10101010000.
Response to Missing Parts under 37 CFR 1.52 or 1.53				·
SIGNA	TURE OF A	PPLICA	ANT, ATTORNEY, O	R AGENT
Firm Townsend and				
Individual name Signature	Lesd	1.		

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be send to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231. PA 3305137 v1

Typed or printed name

Signature

Chris Fitting

#### **CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on this date:

May 13, 2003

Date

May 13, 2003



Attorney Docket No.: 018547-048820US

Client Reference No.: 3407.2



#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Sani-Rose et al.

Application No.: 09/683,264

Filed: December 5, 2001

For: COMPUTER SOFTWARE FOR AUTOMATED ANNOTATION OF **BIOLOGICAL SEQUENCES** 

Examiner: Unassigned

Art Unit: 1024

E PIECEIVED

ECHCENTER 1600/2900 INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.97 and

§1.98

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

The references cited on attached form PTO/SB/08B are being called to the attention of the Examiner. Copies of the references are enclosed. It is respectfully requested that the cited references be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom. Also enclosed is a copy of the International Search Report corresponding to the PCT application.

As provided for by 37 CFR 1.97(g) and (h), no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information, and no inference should be made that the information and references cited are, or are considered to be material to patentability because they are in this statement. No inference should be made that the information and references cited are prior art merely because they are in this statement.



Sani-Rose et al.

Application No.: 09/683,264

Page 2

Applicant believes that <u>no fee is required</u> for submission of this statement. However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 20-1430. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Respectfully submitted,

Joe Liebeschuetz Reg. No. 37,505

TOWNSEND and TOWNSEND and CREW LLP Two Embarcadero Center, 8<sup>th</sup> Floor San Francisco, California 94111-3834

Tel: 650-326-2400 Fax: 650-326-2422

JOL:crf PA 3304845 v1

PTO/SB/08B (04-03) Approved for use through 04/30/2003. OMB 0651-0031 U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449/PTO INFORMATION DISCLOSURE TATEMENT BY APPLICANT (use as many sheets as necessary)

	Complete if Known	
Application Number	09/683,264	~~
Filing Date	December 5, 2001	Mr.
First Named Inventor	Michael A. Siani Rose	9
Art Unit	2857	. 2
Examiner Name	Unassigned	V/22
Attorney Docket Number	018547-048820US	17 10 d

NON PATENT LITERATURE DOCUMENTS				
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Т	
	AA	BERMAN et al., "The Protein Data Bank," Nuc. Acids Res., 28(1):235-242 (2000).		
	AB	BRENNER et al., "The ASTRAL compendium for protein structure and sequence analysis," <u>Nuc. Acids Res.</u> , 28(1):254-256 (2000).		
	AC	KARPLUS et al., "Hidden Markov models for detecting remote protein homologies," <u>Bioinformatics</u> , 14(10):846-856 (1998).		
	AD	HAUGHEY et al., SAM Sequence Alignment and Modeling Software System, Baskin Center for Computer Engineering and Science, University of California, Technical Report UCSC-CRL-99-11, pgs. 1-154 (2001).		
	<u> </u>			

	<del></del>		
Examiner		Date	
Signature		Considered	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant's unique citation designation number (optional). Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

### PATENT COOPERATION TREATY

## **PCT**

#### INTERNATIONAL SEARCH REPORT

20/

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 18547-488PC	FOR FURTHER ACTION		ation of Transmittal of International Search Report [/ISA/220] as well as, where applicable, item 5			
International application No. PCT/US02/12435	International filing date (day/mor 19 April 2002 (19.04.2002)		(Earliest) Priority Date (day/month/year) 19 April 2001 (19.04.2001)			
Applicant AFFYMETRIX, INC.						
applicant according to Article 18.  This international search report con	been prepared by this International S A copy is being transmitted to the International S assists of a total of sheets.	ernational	Bureau.			
	age, the international search was carried filed, unless otherwise indicated under		basis of the international application in the			
Authority (Rule 23.1(b)  b. With regard to any nucle	)).		e international application furnished to this e international application, the international			
	ational application in written form.					
	filed together with the international application in computer readable form.					
	to this Authority in written form.					
	to this Authority in computer readable		a not go havend the dissipance in the			
اسبيط	ubsequently furnished written sequence n as filed has been furnished.	nsung doe	s not go beyond the disclosure in the			
the statement that the i	nformation recorded in computer readal	ole form is	identical to the written sequence listing has			
2. Certain claims were f	ound unsearchable (See Box I).					
3. Unity of invention is 1	acking (See Box II).					
4. With regard to the title,	submitted by the applicant					
	submitted by the applicant.	116.				
uie text has been estab	lished by this Authority to read as follo	ws:				
5. With regard to the abstract,						
	submitted by the applicant.					
the text has been estab			y as it appears in Box III. The applicant ch report, submit comments to this			
6. The figure of the drawings to	e published with the abstract is Figure	No	F-3			
as suggested by the app			None of the figures			
because the applicant f	ailed to suggest a figure.					
because this figure bett	er characterizes the invention.					

#### INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/12435

Box	I Obse	ervations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)
This	interna	tional report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
1.	Ш	Claim Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
		because they relate to subject matter not required to be scatched by this Authority, hantery.
2.	Ш	Claim Nos.:
		because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
•		
3.	Ш	Claim Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule
	6.4(a).	
Dov		
DUX		bservations where unity of invention is lacking (Continuation of Item 2 of first sheet)
This	Intorno	tional Searching Authority found multiple inventions in this international application, as follows:
		Continuation Sheet
1.	$\bowtie$	As all required additional search fees were timely paid by the applicant, this international search report covers all
		searchable claims.
2.		As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite
		payment of any additional fee.
3.		As only some of the required additional search fees were timely paid by the applicant, this international search
		report covers only those claims for which fees were paid, specifically claims Nos.:
4.	11	No required additional search fees were timely paid by the applicant. Consequently, this international search report
		is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
Ren	nark on	Protest The additional search fees were accompanied by the applicant's protest.
		No protest accompanied the payment of additional search fees.

#### INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/12435

		FC1/0802/12433			
A. CLASSIFICATION OF SUBJECT MATTER					
IPC(7) : G01N 33/48					
US ČĹ : 702/19					
According to International Patent Classification (IPC) or to both national classification and IPC					
B. FIELDS SEARCHED					
	<del></del>				
	cumentation searched (classification system followed	l by classification symbols)			
U.S.: 7	02/19		ļ		
Documentati	on searched other than minimum documentation to the	e extent that such documents are include	d in the fields searched		
	the state of the s				
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Electronic da	ta base consulted during the international search (na	me of data base and, where practicable, s	earch terms used)		
	ontinuation Sheet		1		
C. DOC	UMENTS CONSIDERED TO BE RELEVANT				
Category *	Citation of document, with indication, where a	ppropriate, of the relevant passages	Relevant to claim No.		
X	KARPLUS, K. et al. Hidden Markov models for de		1-57		
	Bioinformatics. 1998, Volume 14, Number 10, pag		' '		
x	BRENNER, S.E. et al. The ASTRAL compendium		1 4 10 14 22 21 20		
A	analysis. Nucleic Acid Research. January 2000, Vo	* · · · · · · · · · · · · · · · · · · ·	1-4, 12, 14-23, 31, 39-		
Y	see entire document.	nume 28, Number 1, pages 234-236,	42, and 50		
*	see entire document.				
		•	3-11, 13, 24-30, 32-		
			38, 43-49, and 51-57		
X	BERMAN, H.M. et al. The Protein Data Bank. Nu		1-4, 12, 14-23, 31, 39-		
	Volume 28, Number 1, pages 235-242, see entire d	locument.	42, and 50		
Y					
			3-11, 13, 24-30, 32-		
			38, 43-49, and 51-57		
X, P	HUGHEY, R. et al. SAM Sequence Alignment and	Modeling Software System Raskin	1-57		
, -	Center for Computer Engineering and Science, Uni		1.37		
	UCSC-CRL-99-11. 20 December 2001, pages 1-15				
	O C D C C C C C C C C C C C C C C C C C	54, see chine document.			
		e de la companya del companya de la companya del companya de la co	·		
<u> </u>					
Further	documents are listed in the continuation of Box C.	See patent family annex.			
	pecial categories of cited documents;	"T" later document published after the inte	mational filing data as associate		
3	poolal categories of their documents,	date and not in conflict with the applic	ation but cited to understand the		
	defining the general state of the art which is not considered to be	principle or theory underlying the inve	ntion		
of particu	lar relevance	"X" document of particular relevance; the	alaimed invention		
"E" earlier ap	plication or patent published on or after the international filing date	considered novel or cannot be consider			
•		when the document is taken alone			
	which may throw doubts on priority claim(s) or which is cited to he publication date of another citation or other special reason (as	"Y" document of particular relevance: the	alaimed invention		
specified)		"Y" document of particular relevance; the considered to involve an inventive step			
•	combined with one or more other such documents, such combination				
"O" document referring to an oral disclosure, use, exhibition or other means being obvious to a person skilled in the art					
"P" document published prior to the international filing date but later than the "&" document member of the same patent family					
priority date claimed					
Date of the actual completion of the international search  Date of mailing of the international search report					
10 April 2003 (10.04.2003) UT MAY 2003					
	missioner of Patents and Trademarks	L butten mulke	NOL For		
	PCT	Channing S. Mahatan	TOF		
Wasi	Washington, D.C. 20231				
Facsimile No	Facsimile No. (703)305-3230 Telephone No. (703) 308-0196				

Form PCT/ISA/210 (second sheet) (July 1998)

INTERNATIONAL SEARCH REPORT	
	$\mathcal{H}_{i} = \{ (i,j) \in \mathcal{H}_{i} \mid (i,j) \in \mathcal{H}_{i} : i \in \mathcal{H}_{i} $
uid.  roup I, claim(s) 1-11, 20-30, and 39-49, drawn to a method, sys	ventions which are not so linked as to form a single general ns to be searched, the appropriate additional search fees must be stem, and computer software product for characterizing a plurality of
iological sequences.	
he inventions listed as Groups I and II do not relate to a single gule 13.2, they lack the same or corresponding special technical f	
ne elassification of the sequences to the distances to the models.	termination of fitness of the biological sequences to the models and
The special technical feature of Group II is considered to be the ennodel and the assignment of the sequences to the models based up	
The claimed method, system, and computer software product in Gwhich are not coextensive and which do not share the same technion the criteria and assignment. Note that PCT Rule 13 does not p	cal feature; determination of fitness and classification, establishmen
Thus, in summary, the inventions listed as Groups I and II are not of unity of invention").	t linked as to form a single general inventive concept ("requirement
Continuation of B. FIELDS SEARCHED Item 3:	
IS PAT FULL, MEDLINE, BIOSIS, CAPLUS, EMBASE, BIOT	rechds
earch terms: sequence, classification, structural, functional, mod	el, Hidden Markov, E-value, library

PCT/US02/12435

UNITED STATES RECEIVING OFFICE (RO/US) FEE CODING AND RECORDING SHEET					
IDENTIFICATION OF THE INTERNATIONAL APPLICATION					
INTERNATIONAL APPLICATION NUMBER INTERNATIONAL FILING DATE					
PCT 1 USO2 12435		19 APRIL ?	2002		
APPLICANT (Name)				,	
AFFY METRIX, INC.					
PAYM	ENTS	· · · · · · · · · · · · · · · · · · ·	RE	FUNDS	
	Deposit Account	Deposit Account	To Deposit Account	To Deposit Account	
Payment on Filing	20 1430	)			
Deposit Account	10 APRIL 03	DATE:	DATE:	DATE:	
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Date Mailed:					
RO/US Authorization	RO/US Authorizat	ion RO/US Authorization	RO/US Authorization	RO/US Authorization	
M.S.					

#### CHAPTER I PCT TELEPHONE MEMORANDUM **FOR** LACK OF UNITY OF INVENTION



PCT No.: PCT/US02/12435 Examiner: Channing S. Mahatan Attorney spoken to: Joe Liebeschuetz Date of call: 10 April 2003 Amount of payment approved: \$210.00 Deposit account number to be charged: 20-1430 Attorney elected to pay for ALL additional inventions Attorney elected to pay only for the additional inventions covered by Group(s): -- encompassing --Claim(s): Attorney elected NOT to pay for any additional inventions, therefore, only the first claimed invention (Group I) covered by Claim(s) \_\_\_\_\_ has been searched. Attorney was orally advised that there is no right to protest for any group not paid for. Attorney was orally advised that any protest must be filed no later than 15 days from the mailing of the Search Report (PCT/ISA/210). **Time Limit For Filing A Protest** 

Applicant is hereby given 15 days from the mailing date of this Search Report in which to file a protest of the holding of lack of unity of invention. In accordance with PCT Rule 40.2, applicant may protest the holding of lack of unity only with respect to the group(s) paid for.

#### **Detailed Reasons For Holding Lack of Unity of Invention:**

Please See Continuation Sheet

Note: A copy of this form must be attached to the Search Report.

International application No: PCT/US02/12435

# ATTACHMENT TO CHAPTER I PCT TELEPHONE MEMORANDUM FOR LACK OF UNITY OF INVENTION

#### **Continuation of Detailed Reasons For Holding Lack of Unity of Invention:**

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claim(s) 1-11, 20-30, and 39-49, drawn to a method, system, and computer software product for characterizing a plurality of biological sequences.

Group II, claim(s) 12-19, 31-38, and 50-57, drawn to a method, system, and computer software product for gene characterization.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The special technical feature of Group I is considered to be the determination of fitness of the biological sequences to the models and the classification of the sequences to the distances to the models.

The special technical feature of Group II is considered to be the establishment of the criteria for assigning the sequences for each model and the assignment of the sequences to the models based upon the criteria.

The claimed method, system, and computer software product in Groups I and II produce different products and/or different results which are not coextensive and which do not share the same technical feature; determination of fitness and classification, establishment of the criteria and assignment. Note that PCT Rule 13 does not provide for multiple products or methods in a single application.

Thus, in summary, the inventions listed as Groups I and II are not linked as to form a single general inventive concept ("requirement of unity of invention").

#### NOTES TO FORM PCT/ISA/220 (continued)

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

- [Where on grailly there were 48 claims and after amendment of some claims there are 51];
   "Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers;
   claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
- [Where originally there were 15 claims and after amendment of all claims there are 11]: "Claims 1 to 15 replaced by amended claims 1 to 11."
- 3. (Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims):
  "Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or "Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
- 4. [Where various kinds of amendments are made]: "Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

#### "Statement under Article 19(1)" (Rule 46,4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

The statement should be brief, it should not exceed 500 words if in English or if translated into English:

It should not be confounded with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and smart be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It should not contain any disparaging comments on the international search report or the relevance of citations contained in the report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

#### In what language ?

The amendments must be made in the language in which the international application is published. The letter and any statement accompanying the amendments must be in the same language as the international application if that language is English or French; otherwise, it must be in English or French, at the choice of the applicant.

#### Consequence if a demand for international preliminary examination has already been filed?

If, at the time of filing any amendments under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the same time of filing the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority (see Rule 62.2(a), first sentence).

#### Consequence with regard to translation of the international application for entry into the national phase?

The applicant's attention is drawn to the fact that, where upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated, elected Office, see V slume II of the PCT Applicant's Guide.